Gender Differences in Daily Emotional Reactivity in Late Life

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Abstract

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Research has shown varying results for gender differences in emotional reactivity. While some studies have found that women have greater negative affect than men, others have found no difference. Likewise, other studies have also found contradicting results for positive affect. Furthermore, as people age, affect variability towards both positive and negative stimuli diminish for both men and women. This suggests that gender differences in reactivity may be different in older populations than younger populations. Using data from the Daily Experience and Wellbeing Study (DEWS) involving 313 older adults aged 65 and older, the present study examines the gender differences in the association between positive or negative encounters and the mood these encounters may elicit in older adults. Participants first provided their background information and identified their social partners using the social convoy measure. Then, they completed Ecological Momentary Assessment (EMA) surveys every 3 hours throughout the day, reporting their social encounters and evaluating the pleasantness and any stressful discussion during each of these encounters and rating their mood. Through multilevel models, this study found that for older adults, men have a more significant improvement in mood after positive encounters than women. This contradicts our hypothesis that there would be no gender difference in reactivity after positive encounters. In addition, the multilevel models showed that for older adults, there is no significant gender difference in change of mood after negative encounters despite previous research that has shown that women have greater variability in negative affect than men.

Introduction

Many people regard their loved ones as the most important part of their lives, and this regard for our friends and families has a strong influence on how we live, how we feel, and the decisions we make. Not only do our social connections affect our motivations and our emotional wellbeing, but they also have a strong impact on our physical health (House et al., 1988).

Social connections affect health and well-being by influencing mood, or more specifically, the changes in mood. By definition, mood is a temporary emotional state, and how it changes is through our reactions to different stimuli. These reactions are also known as emotional reactivity, and the control of these reactions is emotional regulation. This concept of emotional reactivity has been shown to have a strong association with health. For example, in one study, Salovey and Birnbaum (1989) found that the moods of college students experiencing symptoms for the flu or common cold had a strong correlation to their recovery and physical health. In another study, researchers found that heightened emotional reactivity to daily stressors is associated with long-term risk of reporting a chronic physical health condition (Piazza et al., 2013). However, daily stressor exposure was not associated with an increased risk of long-term physical health problems, indicating that the adverse effects of stress and mood on health may have less to do with being exposed to stressors and more to do with how one reacts to these stressors (Piazza et al., 2013).

Research has also shown that the daily mood of individuals has a strong association with their mental health. Bianchin & Angrilli (2012) found that individuals with chronic or repeated emotional responses to negative stimuli were more likely to develop chronic anxiety or a mood disorder. Similarly, Charles and colleagues (2013) found that levels of negative affect throughout non-stressor days predicted general affective distress and symptom-based diagnosis of affective disorder 10 years after they were first measured.

Research has also explored how daily changes in mood and emotional reactivity influence mental and physiological health. In 2010, Ong proposed potential pathways of how positive emotions influence physiological health, such as by influencing health behaviors and directly affecting physiological systems. In addition, some studies have proposed that exposure to stress causes aging of the immune system (Cohen & Williamson, 1991; Kiecolt-Glaser & Glaser, 2001). How and why daily experiences and mood affect individuals is not completely understood.

Age Differences in Emotional Reactivity

It is also important to consider age differences in emotional reactivity. It is possible that older adults differ from younger adults regarding their reactions to negative emotional stimuli. How and why emotional reactivity may change with age may be attributed to socioemotional selectivity theory which suggests that older individuals are more motivated to maintain their close relationships than younger individuals. Carstensen (1995) proposed this theory, in which the limitation of time results in a change in priority. Thus, as people age and have less time in life, they begin to prioritize their close relationships over other aspects of life. This may be a motivator as for why older adults react differently to stimuli than younger populations. In addition, the strength and vulnerability integration (SAVI) model describes how emotional experience changes with age (Susan Turk Charles, 2010). The model suggests that individuals tend to employ more emotion regulation strategies and have more focus on emotional well-being as they age. In combination, these theories indicate that older adults' approach emotional experiences differently than younger adults'. As such, the present study examined emotional reactivity throughout the day among older adults.

Gender Differences in Emotional Reactivity

A lack of understanding may reflect the gender differences in emotional reactivity and mood. Although an abundance of research has provided insight into this topic, there is still mixed evidence. Some research suggests that women are more reactive and negatively affected by negative stimuli than men, but other studies have found contradicting results. For example, in 2015, Maffei and colleagues found that women are more responsive and vulnerable to aversive stressful conditions. In contrast, in 2003, a study by Birditt and Fingerman did not find a gender difference in the reports of the experience of anger.

One proposed explanation for these findings is a potential gender difference in the emotional regulation strategies employed in response to stressful events. Zlomke and Hahn (2010) examined the gender differences for different coping strategies and found that the largest gender differences were found for the strategies of rumination, putting into perspective, and other-blame. Women were found to report utilizing rumination and putting into perspective more than men, and men reported blaming others more than women did. Furthermore, Nolen-Hoeksema and Aldao (2011) also examined gender differences in emotion regulation strategies and found that women were more likely to utilize maladaptive strategies, or strategies that are associated with more depressive symptoms. This suggests that women may be more likely to be affected by negative or stressful events because they are more likely to use maladaptive strategies. However, some studies have also found no gender differences in emotion regulation strategies (Graf et al., 2016).

Another proposed explanation is that women are biologically more vulnerable to negative stimuli. Thus, according to some researchers, women and men simply experience negative stimuli differently due to their respective physiological systems. Bianchin and Angrilli (2012) found that women are biologically more vulnerable to adverse or stressful events. Likewise,

Thomsen and colleagues found evidence that women were associated with higher scores on negative affect than men (Thomsen et al., 2005). However, some studies have found contradicting results. For instance, Deng and colleagues (2016) found that physiologically, men and women have similar reactions to negative stimuli, but men are simply not as expressive. Thus, it is possible that the gender difference in emotional reactivity may actually be a gender difference in expression than in true reactivity.

In addition to negative stimuli, researchers also have examined gender differences in emotional reactivity to pleasant stimuli. Codispoti and colleagues (2008) found that men and women are similar in their affective physiological reaction to pleasant stimuli (Codispoti et al., 2008). In contrast, Hagemann and colleagues (1999) found that women reported greater reactivity to both positive and negative stimuli. Similarly, Wilhelm and colleagues (2017) found pronounced gender differences in response to both positive and negative stimuli. For example, in response to achievement stimuli, women exhibited sympathetically driven defense responses and men exhibited parasympathetically driven defense responses. Thus, in existing literature, there is no consensus on how women and men are affected by different interactions and stimuli, both positive and negative.

Furthermore, there is even less consensus on gender differences in emotional reactivity in late life. Because most of the existing literature concerns younger individuals, findings may not generalize to older populations. Numerous studies have found that affect variability towards both positive and negative stimuli diminish for both men and women as they grow older. Thus, the mood of older men and women are affected differently by stimuli than that of younger populations. For example, Birditt (2014) explored how older individuals differ in emotion regulation strategies and found marked differences in the strategies and tactics which older participants employed compared to younger participants as well as the level of reactivity these

older participants reported compared to younger participants. For example, the study suggested that older adults were less reactive because they were more comfortable with avoidance strategies than younger participants. In another study in 2016, Trives and colleagues found both age and gender differences in emotion regulation strategies. Older adults reported less frequent use of maladaptive strategies compared to younger participants, and women reported both more maladaptive strategies as well as more negative affect than men.

To further examine these issues among older adults, this study used data from the Daily Experiences and Well-being Study (DEWS) to examine gender differences in the effects of positive and negative encounters on mood. I hypothesized that a) positive encounters affect women's and men's positive mood similarly, whereas b) negative encounters elicit greater negative mood on older women than men.

Methods

Participants and Procedure

This study used data from the Daily Experiences and Well-being Study (DEWS) conducted in 2016-2017. The larger DEWS study had a sample of 333 participants aged 65-92 living in the greater Austin, Texas area. Of those participants, 175 women and 138 men completed ecological momentary assessment (EMA) surveys used in this study (n = 313, mean age = 73.94, SD = 6.38). Eligibility for the study required all participants to be 65+ years in age and not working more than 20 hours a week. Eligible individuals were identified from a landline list and contacted. Of those eligible, 333 individuals participated in the DEWS study.

First, participants were interviewed face-to-face to collect background characteristics, such as personality, education, and health. In addition, using the social convoy model,

participants reported the social partners that made up their network of close social ties, as well as the intimacy level of each relationship.

After this initial interview, participants were invited to participate in 5-6 days of data collection involving ecological momentary assessment surveys and provided with an Android device for this purpose. The EMA protocol involved responding to a brief survey every three hours. Initially, 321 individuals agreed to complete daily ecological momentary assessment (EMA) surveys, but only 313 participants completed at least one survey. On these surveys, participants reported information such as their number of social encounters, the quality of the social encounters, and their mood. On average, each participant completed 20 surveys.

Based on the global interviews, the diversity of the sample could be determined. Of the 313 participants, 44% identified as male, 56% identified as female, and 57% of the total sample was married. In terms of race and ethnicity, 70% were non-Hispanic White, 15% were Black, and 15% were Latinx or of Hispanic origin. In addition, the participants reported their education on a scale of 1 = no formal education, 2 = elementary school, 3 = some high school, 4 = high school, 5 = some college/vocation or trade school, 6 = college graduate, 7 = post college but no additional degree, 8 = advanced degree. The average education achieved by the participants was 5.88 on this scale (SD = 1.61), in which 57% had a Bachelor's degree or higher. More details about the sample can be found in Table 1.

For their participation in the study, participants were compensated $50 for the face-to-face global interview and $100 for completing 5-6 days of daily data collection.

Table 1

Descriptions of DEWS Participants

	Participants (n = 313)		
Characteristics	*M*	*SD*	*Range*
Age	73.94	6.38	65-90
Education	5.88	1.61	1-8
		Proportions	
Female		.56	
Marital Status			
Married		.57	
Divorced		.18	
Widowed		.20	
Other		.05	
Race and Ethnicity			
Minority		.31	
Non-Hispanic White		.70	

[a] 1 = no formal education, 2 = elementary school, 3 = some high school, 4 = high school, 5 = some college/vocation or trade school, 6 = college graduate, 7 = post college but no additional degree, 8 = advanced degree. [b] 1 = married/remarried, 0 = not married/widowed. [C] Coded as 1 = ethnic or racial minority, 0 = non-Hispanic White.

Measures

Evaluation of Encounters

Participants first indicated whether they had encountered any of their social partners in the last 3 hours, and then evaluated the encounters as pleasant or stressful. Social encounters were defined as any contact with a social partner. Responses measuring pleasant encounters were rated from 1 (*Unpleasant*), 2 (*A little unpleasant*), 3 (*Neutral*), 4 (*A little pleasant*), and 5 (*Pleasant*). Responses indicating unpleasant or stressful encounters were rated as 1 (*Yes*) or 0 (*No*). If the encounter was at least a little unpleasant (score of 1 or 2), the stressful or unpleasant encounter was re-coded as 1. If they were not unpleasant (scores 3 –5), it was coded as 0.

Positive and Negative Mood

Participants rated the extent to which they felt proud, content, loved, and calm on a scale from 1 (*Not at all*), 2 (*a little*), 3 (*somewhat*), 4 (*quite a bit*), and 5 (*a great deal*). Participants also rated the extent to which they felt nervous/worried, irritated, and sad on a scale from 1 (*Not at all*), 2 (*a little*), 3 (*somewhat*), 4 (*quite a bit*), and 5 (*a great deal*). Ratings were averaged to evaluate overall negative mood. Ratings were averaged to evaluate overall positive or negative moods for each participant.

Covariates

We controlled for participants' demographic characteristics in the analyses: (1) age, (2) physical health, (3) education level, (4) marital status, and (5) minority status. Participants reported their birthdate, and age was treated as a continuous variable in years. Participants were rated their physical health on a 5 point scale, from 1 = *poor* to 5 = *excellent*. To assess education, participants were asked "What is the highest grade of school or year of college you completed?" and given 8 answer options: 1 (no formal education), 2 (1–8 years, elementary school), 3 (some high school), 4 (12 high school), 5 (13–15 years some college/vocational or technical school), 6 (16 college graduate), 7 (17+ post college; no additional degree), or 8 (17+ advanced degree). Marital status was coded as 1 = *married/cohabiting* or 0 = *widowed, divorced, never married*. Minority status was coded as 1 if the participant was a racial or ethnic minority and 0 if the participant was non-Hispanic White.

Analysis Strategy

First, we used descriptive statistics in order to find the means and standard deviations of the variables (Table 1). We also examined the bivariate correlations between the participants' daily social encounters, positive and negative moods, and demographic information (Table 2).

We used assessment-level data aggregated from the 3-hour reports. For social encounters, we calculated mean scores for pleasant and stressful encounters, respectively, for each 3-hour report. For mood, we used their mood-rating for each assessment.

Then, to account for the nested structure of the dataset, we used multilevel linear models with SAS PROC MIXED to examine older adults' mood as a function of interactions between either positive or negative encounters and gender. The 3-hour report was nested within each day, which was nested within each participant. The model controlled for age, physical health, education, marital status, and minority status. We treated gender and social encounter as the predictors, and mood as the outcome.

Results

The bivariate analyses, as shown in Table 2, revealed significant positive correlations between positive and negative social encounters, negative mood and stress encounters, positive mood and pleasant encounters, gender and pleasant encounters, health and positive mood, marital status and pleasant encounters, marital status and positive mood. It also revealed significant negative correlations between negative mood and pleasant encounters, positive mood and stressful encounters, and health and negative mood.

From the multilevel models, we predicted that men's and women's moods would be affected similarly by pleasant encounters, but negative encounters would elicit a larger change in mood in women than in men. Unexpectedly, we found the opposite results. The model analyzing predictors for positive mood, shown in Table 4, revealed a significant interaction effect involving gender and pleasant encounters (B = -0.175, p = 0.0474). Simple slope analyses, shown in Figure 1, revealed a larger increase in positive mood for men (B = 0.1979, SE = 0.0234, p = <.001) than for women (B = 0.1405, SE = 0.01704, p = <.001) after pleasant encounters.

For stressful encounters, shown in Table 3, the multilevel models did not indicate any significant interaction effect involving gender and unpleasant encounters (B = -0.0066, p = 0.7431). Furthermore, simple slope analyses, shown in Figure 2, indicated there was no significant difference between men (B = 0.1767, SE = 0.01564, p = <.001) and women (B = 0.1833, SE = 0.0126, p = <.001). In addition, for both positive and negative mood, health was found to be a significant predictor (p = 0.0058; p = <.001).

Table 2

Bivariate Correlations

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Any stressful discussion	–								
2. Any pleasant encounter	0.144*	–							
3. Negative mood	0.341**	-0.149*	–						
4. Positive mood	-0.175**	0.266**	-3.45**	–					
Covariates									
5. Gender	-0.064	0.142*	0.031	-0.004	–				
6. Age	-0.090	-0.072	0.001	-0.106	0.015	–			
7. Education[a]	0.041	0.108	-0.060	-0.002	0.172**	-0.072	–		
8. Health[b]	-0.087	0.085	-0.272**	0.138 *	0.040	-0.043	-0.295**	–	
9. Minority status[c]	-0.053	0.016	0.063	0.029	-0.001	-0.123*	-0.361**	-0.349*	-
10. Marital status[d]	0.080	0.487**	-0.002	0.128 *	0.396*	-0.232**	0.155**	0.033	-0.014

[a] 1 = no formal education, 2 = elementary school, 3 = some high school, 4 = high school, 5 = some college/vocation or trade school, 6 = college graduate, 7 = post college but no additional degree, 8 = advanced degree.
[b] 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent.
[c] 1 = married/remarried, 0 = not married/widowed.
[d] 1 = ethnic or racial minority, 0 = non-Hispanic White.
*p< .05. **p< .01.

Table 3

Multilevel Model for Negative Mood

	Estimate	Standard Error	Pr > |t|
Intercept	1.5721	0.2276	<.0001
Unpleasant encounters	0.1833	0.0126	<.0001
Gender	0.03919	0.03579	0.2744
Unpleasant encounters x Gender	-0.0066	0.02008	0.7431
Covariates			
Age	-0.001	0.00262	0.699
Education[a]	0.00085	0.01128	0.9403
Marital status[b]	-0.0285	0.03648	0.4357
Minority status[c]	-0.0195	0.03893	0.6168
Health[d]	-0.0816	0.01702	<.0001*

[a] 1 = no formal education, 2 = elementary school, 3 = some high school, 4 = high school, 5 = some college/vocation or trade school, 6 = college graduate, 7 = post college but no additional degree, 8 = advanced degree. [b] 1 = married/remarried, 0 = not married/widowed. [c] 1 = ethnic or racial minority, 0 = non-Hispanic White. [d] 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent. *p< .05

Table 4

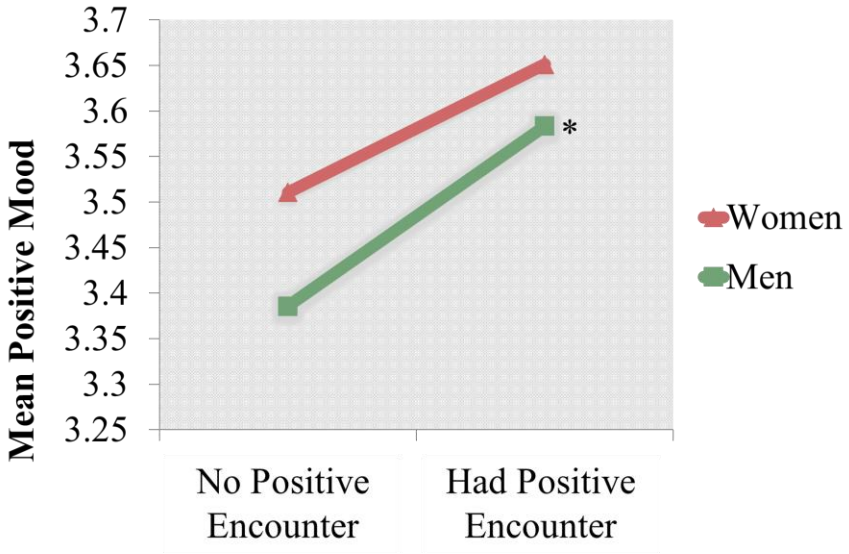
Multilevel Model for Positive Mood

	Estimate	Standard Error	Pr > |t|
Intercept	3.5108	0.5585	<.0001
Pleasant encounters	0.1405	0.01704	<.0001
Gender	0.341	-0.149	0.1654
Pleasant encounters x Gender	-0.175	0.266	0.0474*
Covariates			
Age	-0.064	0.142	0.2449
Education[a]	-0.090	-0.072	0.4902
Marital status[b]	0.041	0.108	0.0842
Minority status[c]	-0.053	0.016	0.3393
Health[d]	0.080	0.487	0.0058

[a] 1 = no formal education, 2 = elementary school, 3 = some high school, 4 = high school, 5 = some college/vocation or trade school, 6 = college graduate, 7 = post college but no additional degree, 8 = advanced degree. [b] 1 = married/remarried, 0 = not married/widowed. [c] 1 = ethnic or racial minority, 0 = non-Hispanic White. [d] 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent. *p< .05

Figure 1

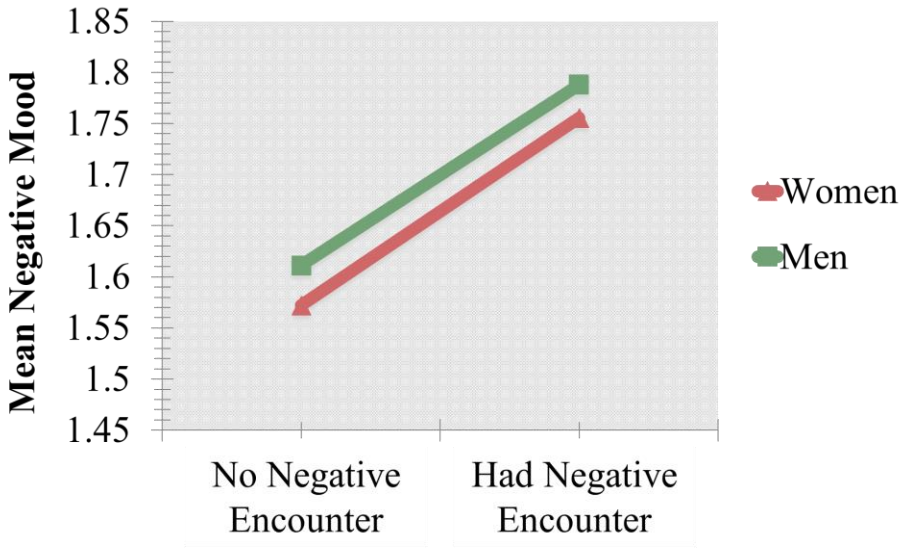
Regression Model Predicting Older Adults' Mood After Positive Encounters



* Significant slope

Figure 2

Regression Model Predicting Older Adults' Mood After Negative Encounters



Discussion

This study examined gender differences in emotional reactivity to social encounters in late life. Through multilevel models, this study found an association between mood and social encounters. Thus, positive encounters were associated with a more positive mood, and negative social encounters were associated with more negative mood. Furthermore, when examining whether there was a gender difference in reactivity, this study found no significant gender difference in mood elicited by negative social encounters, but did find a significant gender difference in the positive mood elicited by positive social encounters.

Reactivity to Negative Encounters

Although multilevel models revealed that negative social encounters result in higher negative mood in older adults, this study found no significant difference in the association mood elicited between men and women in late life. This contradicts previous studies that have shown women have higher negative affect than men (Thomsen, et al., 2005). One explanation for this finding could be that the rate at which affective variability diminishes is greater for women than it is for men. Previous research has shown that as people age, affect variability diminishes for both men and women (Röcke & Brose, 2013). Thus, as people age, both men and women become less reactive to their daily experiences. In combination with research that has shown that women have higher negative affect than men, this finding may suggest that women's affective variability for negative moods diminishes more strongly than for men in late life.

This would also be consistent with Carstensen's socioemotional selectivity theory, which states that as people age and their time becomes limited, they become more selective and prioritize their close relationships (Carstensen et al., 2011). Thus, as adults become older and more motivated to maintain their close relationships, older adults also become more motivated to

not linger on the negative or stressful encounters. Based on this theory, it would make sense that affect variability would then diminish with age.

Reactivity to Positive Encounters

Additionally, the multilevel models showed that older adults reported significantly higher positive mood after experiencing a pleasant or positive encounter. However, this effect was stronger in older men than in older women. This suggests that women also experience a greater decrease in affective variability for positive moods in late life than men. One explanation for this could be that men and women regulate their emotions differently (Garnefski, et al., 2004). If the emotion regulation strategies adopted by women cause both positive and negative moods to have less variability, this would explain both of the results from this study. However, some studies have also found no significant gender difference in emotion regulation strategies adopted in late life (Graf et al., 2016). Thus, the finding cannot be fully explained by a difference in emotional regulation.

Another possible explanation for why men experienced a greater change in positive mood than women in this study could be that men are simply happier and more satisfied in old age than women. Although women tend to be happier than men in early life, research has shown that men have greater satisfaction in late life than women (Plagnol & Easterlin, 2008). This is attributed to reasons such as material goods and family (Plagnol & Easterlin, 2008). According to this research, men are more likely to or come closer to fulfilling their aspirations in regard to material goods and family than women. Another aspect of this is marital status. In late life, a larger percentage of men are married than women (Roberts et al., 2018). This is because men have a higher mortality rate; thus, in late life, more women are widowed than men. Being married not

only fulfills family aspirations but having additional income and shared costs also helps to fulfill aspirations of material goods and wealth (Plagnol & Easterlin, 2008).

Furthermore, through bivariate correlations, marital status was found to be significantly associated with both pleasant encounters and positive mood. Thus, being married may also play a role by enhancing or buffering affective reactivity to daily social encounters. Marital status was also associated with gender, indicating that men are more likely to be married within the dataset. This association with marriage may help explain why men had a stronger association with positive changes in mood in response to positive social encounters than women in this study.

Additionally, it may be important to consider the protective factors of marriage. Marriage is notably associated with health and survival (Pienta et al., 2000; Schone & Weinick, 1998). The health benefits that are associated with marriage include benefits to both fatal and non-fatal diseases, disabilities, and chronic illnesses (Pienta et al., 2000). In this study, health was found to be a strong predictor for negative mood and positive mood, as shown in Table 3. Thus, if, in this dataset, more men are married than women, then it is possible that more men are benefiting from their marital status than are women. Therefore, it may be that marital status and health are mediating this association between gender and positive mood.

Conclusion

As the population becomes older, understanding the components of well-being for older adults becomes more important. Although great advances are made in medicine, social issues must also be addressed. Research has shown the importance of social relationships in late life, and the relationship between social ties and life satisfaction. Thus, the circumstances that improve wellbeing in older adults include the experiences of their daily lives and the relationships and factors that affect their moods and affective states. One specific area of

importance is their daily social encounters and how they affect the wellbeing of older adults. This study sought to examine the effects of positive or negative social encounters on mood and also to identify any gender differences in how these changes in mood occur.

Limitations

There are several limitations in this study. One limitation of this study is the sample used. The sample used for analysis is relatively small, and the participants of the study all come from the same geographic location, where older adults are more highly educated than other locations. Furthermore, the study is relatively invasive, utilizing electronic audio recordings (EAR) and ecological momentary assessments (EMAs) that occurred every three hours. The invasiveness of the study suggests that the participants willing to participate may be more social and positive than other older adults. In addition, the EMAs themselves are self-reported assessments, which may be positively biased. Finally, another limitation is the possibly confounding effects of positive and negative encounters on mood. Although mood is measured only once during every EMA every three hours, both positive and negative encounters may occur during a single three-hour increment. Thus, the effects of positive encounters may mask the effects of a negative encounter or vice versa.

Future Research

Future research could explore how the closeness of social partners affects older adults' mood after these encounters. Studies have commonly found that close social partners are with greater ambivalence than more distal social partners, which may suggest that the varying intimacy of social relationships may introduce nuance to emotional reactivity (Fingerman, et al., 2004). In addition, future research can explore the role that marital status was found to play in

positive mood and pleasant encounters. Marital status was strongly associated with both positive mood and pleasant encounters. It was also more strongly associated with the men of the dataset than the women.

References

Bianchin, M., & Angrilli, A. (2012). Gender differences in emotional responses: A psychophysiological study. *Physiology & Behavior*, *105*(4), 925–932. https://doi.org/10.1016/j.physbeh.2011.10.031

Birditt, K. S. (2014). Age differences in emotional reactions to daily negative social encounters. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *69*(4), 557–566. https://doi.org/10.1093/geronb/gbt045

Birditt, Kira S., & Fingerman, K. L. (2003). Age and Gender Differences in Adults' Descriptions of Emotional Reactions to Interpersonal Problems. *The Journals of Gerontology: Series B*, *58*(4), P237–P245. https://doi.org/10.1093/geronb/58.4.P237

Carstensen, L. L., Turan, B., Scheibe, S., Ram, N., Ersner-Hershfield, H., Samanez-Larkin, G. R., Brooks, K. P., & Nesselroade, J. R. (2011). Emotional experience improves with age: Evidence based on over 10 years of experience sampling. *Psychology and Aging*, *26*(1), 21–33. https://doi.org/10.1037/a0021285

Charles, Susan T., Piazza, J. R., Mogle, J., Sliwinski, M. J., & Almeida, D. M. (2013). The Wear and Tear of Daily Stressors on Mental Health. *Psychological Science*, *24*(5), 733–741. https://doi.org/10.1177/0956797612462222

Charles, Susan Turk. (2010). Strength and Vulnerability Integration (SAVI): A Model of Emotional Well-Being Across Adulthood. *Psychological Bulletin*, *136*(6), 1068–1091. https://doi.org/10.1037/a0021232

Codispoti, M., Surcinelli, P., & Baldaro, B. (2008). Watching emotional movies: Affective reactions and gender differences. *International Journal of Psychophysiology: Official*

Journal of the International Organization of Psychophysiology, *69*(2), 90–95. https://doi.org/10.1016/j.ijpsycho.2008.03.004

Cohen, S., & Williamson, G. M. (1991). Stress and infectious disease in humans. *Psychological Bulletin*, *109*(1), 5–24. https://doi.org/10.1037/0033-2909.109.1.5

Deng, Y., Chang, L., Yang, M., Huo, M., & Zhou, R. (2016). Gender Differences in Emotional Response: Inconsistency between Experience and Expressivity. *PLOS ONE*, *11*(6), e0158666. https://doi.org/10.1371/journal.pone.0158666

Graf, A. S., Ramsey, M. A., Patrick, J. H., & Gentzler, A. L. (2016). Dark Storm Clouds and Rays of Sunshine: Profiles of Negative and Positive Rumination About Daily Hassles and Uplifts. *Journal of Happiness Studies*, *17*(6), 2257–2276. https://doi.org/10.1007/s10902-015-9693-x

Hagemann, D., Naumann, E., Maier, S., Becker, G., Lürken, A., & Bartussek, D. (1999). The assessment of affective reactivity using films: Validity, reliability and sex differences. *Personality and Individual Differences*, *26*(4), 627–639. https://doi.org/10.1016/S0191-8869(98)00159-7

House, J. S., Landis, K. R., & Umberson, D. (1988). Social relationships and health. *Science*, *241*(4865), 540–545. https://doi.org/10.1126/science.3399889

Kiecolt-Glaser, J. K., & Glaser, R. (2001). Stress and Immunity: Age Enhances the Risks. *Current Directions in Psychological Science*, *10*(1), 18–21. https://doi.org/10.1111/1467-8721.00105

Maffei, A., Vencato, V., & Angrilli, A. (2015). Sex Differences in Emotional Evaluation of Film Clips: Interaction with Five High Arousal Emotional Categories. *PLOS ONE*, *10*(12), e0145562. https://doi.org/10.1371/journal.pone.0145562

Nolen-Hoeksema, S., & Aldao, A. (2011). Gender and age differences in emotion regulation strategies and their relationship to depressive symptoms. *Personality and Individual Differences*, *51*(6), 704–708. https://doi.org/10.1016/j.paid.2011.06.012

Piazza, J. R., Charles, S. T., Sliwinski, M. J., Mogle, J., & Almeida, D. M. (2013). Affective Reactivity to Daily Stressors and Long-Term Risk of Reporting a Chronic Physical Health Condition. *Annals of Behavioral Medicine*, *45*(1), 110–120. https://doi.org/10.1007/s12160-012-9423-0

Pienta, A. M., Hayward, M. D., & Jenkins, K. R. (2000). Health Consequences of Marriage for the Retirement Years. *Journal of Family Issues*, *21*(5), 559–586. https://doi.org/10.1177/019251300021005003

Plagnol, A. C., & Easterlin, R. A. (2008). Aspirations, attainments, and satisfaction: Life cycle differences between american women and men. *Journal of Happiness Studies*, *9*(4), 601–619. https://doi.org/10.1007/s10902-008-9106-5

Roberts, A. W., Ogunwole, S. U., Blakeslee, L., & Rabe, M. A. (2018). *The Population 65 Years and Older in the United States*. United States Census Bureau. https://www.census.gov/library/publications/2018/acs/acs-38.html

Röcke, C., & Brose, A. (2013). Intraindividual variability and stability of affect and well-being. *GeroPsych*, *26*(3), 185–199. https://doi.org/10.1024/1662-9647/a000094

Salovey, P., & Birnbaum, D. (1989). Influence of mood on health-relevant cognitions. *Journal of Personality and Social Psychology*, 539–551.

Schone, B. S., & Weinick, R. M. (1998). Health-Related Behaviors and the Benefits of Marriage for Elderly Persons. *The Gerontologist*, *38*(5), 618–627. https://doi.org/10.1093/geront/38.5.618

Thomsen, D. K., Mehlsen, M. Y., Viidik, A., Sommerlund, B., & Zachariae, R. (2005). Age and gender differences in negative affect—Is there a role for emotion regulation? *Personality and Individual Differences*, *38*(8), 1935–1946. https://doi.org/10.1016/j.paid.2004.12.001

Trives, J. J. R., Navarro Bravo, B., Latorre Postigo, J. M., Ros Segura, L., & Watkins, E. (2016). Age and Gender Differences in Emotion Regulation Strategies: Autobiographical Memory, Rumination, Problem Solving and Distraction. *The Spanish Journal of Psychology*, *19*, E43. https://doi.org/10.1017/sjp.2016.46

Wilhelm, F. H., Rattel, J. A., Wegerer, M., Liedlgruber, M., Schweighofer, S., Kreibig, S. D., Kolodyazhniy, V., & Blechert, J. (2017). Attend or defend? Sex differences in behavioral, autonomic, and respiratory response patterns to emotion–eliciting films. *Biological Psychology*, *130*, 30–40. https://doi.org/10.1016/j.biopsycho.2017.10.006

Zlomke, K. R., & Hahn, K. S. (2010). Cognitive emotion regulation strategies: Gender differences and associations to worry. *Personality and Individual Differences*, *48*(4), 408–413. https://doi.org/10.1016/j.paid.2009.11.007

Biography

Elizabeth Tran was born in Lancaster, Pennsylvania in 1997 to Tung Tran and Oanh Chu. She was raised by her grandmother, Hay Tran, before moving to Houston, Texas with her family in 2007. After graduating from Cypress Woods High School, she enrolled in the Human Development and Family Sciences Honors program at the University of Texas at Austin in 2016 as a Health Science Scholar. In college, she worked in the Adult Family Project lab, participated in activities such as the Freshman Research Initiative, worked at the Blanton Art Museum, and volunteered at the family shelter Casa Marianella. She plans to graduate in May of 2020 with a Bachelor of Science and Arts in Human Development and Family Sciences with a certificate in Forensic Sciences. After graduation, she plans to continue working with the Adult Family Project and the Texas Aging and Longevity Center at UT Austin.